National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001

JAN 1 1 2000

Dr. Bradford Parkinson
Chair
NASA Advisory Council
Washington, DC 20546

Dear Dr. Parkinson:

Thank you for your report on the NASA Advisory Council meeting on August 3-4, 1999, which was held at Glenn Research Center (GRC). I regret that I was unable to meet with the Council; events in Washington prevented me from attending. I am pleased that the Council had a comprehensive and productive meeting. GRC plays vital roles in important research and technology development, both in the space and aeronautics arena. Long-term, basic research is vitally important to this Nation's economic future, and I am pleased that the Council will be visiting our other two research centers, Langley and Ames, this year.

I want to thank the Council for its steadfast efforts at insisting on a Probability Risk Assessment (PRA) for the International Space Station program. Your thoughts are well founded and concerns noted. The program office is on the right track in developing a PRA, and those results should be finalized early this year.

We also had a productive meeting in October with members of the Council's Space Transportation Subcommittee, concerning our future space transportation efforts. The Chief Engineer's office is working to incorporate the Subcommittee's comments into our Integrated Space Transportation Plan (ISTP). The ISTP has been presented to OMB and will likely be a part of the President's FY 2001 budget proposal in February 2000. The Council will hear additional details on the ISTP at your next meeting. I have enclosed our formal response to your recommendation on the ISTP.

In light of the failures of our recent Mars missions, I want to urge the Council to continue its efforts in examining our Faster, Better, Cheaper (FBC) strategies and our work on institutionalizing these concepts within NASA. It is my understanding that Anthony Spear, our lead person at creating an Agencywide approach to FBC, will brief the Council early this year.

As always, I appreciate the time and dedication you and the Council members give to our programs and policies. The Council's efforts not only provide valuable assistance to NASA, but benefit the Nation as a whole.

Sincerely,

Daniel S. Goldin
Administrator

Enclosure

NAC Recommendations from August 3-4, 1999 Meeting

NAC Recommendation: STAS Assessment

NASA should immediately structure the entire $1.25 billion "funding wedge" in FY 2001-2004 into a creative government-industry backup Reusable Launch Vehicle (RLV) program capable of producing a Shuttle replacement vehicle by about 2010. The focus of this initial four-year effort should be: consider conceptual design; systems engineering; and early demonstration of alternative, robust Two-Stage-To-Orbit (TSTO) concepts, taking the optimum concept to the point of full-scale engineering development.

NASA Response: The Space Transportation Architecture Team has worked with industry in a continuation of the Space Transportation Architecture Study (STAS) to develop an Integrated Space Transportation Plan (ISTP). This plan includes a phased approach that will lead to the next generations of Reusable Launch Vehicles (RLV) with improved safety and reliability and reduced cost of access to space. The plan envisions an initial phase, beginning in FY 2000 to conduct detailed systems definition and conceptual designs for 2nd generation RLV's. This phase will be followed by a downselect of the industry teams in 2002 to continue with at least two competing options. The next phase from FY 2002 to 2004 will include detailed design, technology development and demonstration of alternative RLV concepts, and conclude with the initiation of development activities including solicitation and selection for full-scale development in FY 2004 through 2005. The 2nd generation RLV concepts considered can include Shuttle-derived, two-stage and single stage to orbit. The selection criteria will be based on meeting NASA's safety goals of 1/1000 probability of loss of vehicle and 1/10000 probability of loss of crew and a reduction in cost of 1/10 to achieve $1000/lb to LEO.

NAC Recommendation: Fundamental Physics

The space environment provides unique opportunities for research in fundamental physics. However, implementation of NASA programs in this area has been hampered by the absence of a clear home within the Agency. NASA should review the organizational, budgetary, and interagency aspects of its fundamental physics programs, with an eye toward solving this structural problem.

NASA Response: NASA agrees that there has been a lack of a "home" for fundamental physics within the Agency. This theme has been the subject of discussions between the Office of Space Science (Code S), the Office of Life and Microgravity Sciences and Applications (Code U), and the NASA Chief Scientist. The two program offices have signed an agreement, the Office of Space Science will forward the latest version to you.

NAC Recommendation: Contamination of the U.S. Laboratory Module of ISS

The ISS galley should be located outside of the U.S. laboratory. In addition, ISS and U.S. laboratory environmental and particulate sampling protocols should be developed.

NASA Response: NASA completely understands the research community's concerns regarding the placement of the galley in the U.S. laboratory. The final location for the galley is the Habitation (Hab) Module which is planned for delivery to the Space Station at Assembly Complete. However, an interim location is required between 17A (March 2004) and Assembly Complete (November 2004). The interim location has not been determined and is currently under assessment. The ISS program is working closely with the user community on this issue.

The environmental sampling for the U.S. lab includes a preflight off-gas test and periodic archival sampling for volatile organics. Contingency monitors will be available for combustion products and for portable dioxide monitoring. After 7A, there will be periodic air analysis by the volatile organics analyzer. Airborne particulate and microbe levels are controlled by a High Efficiency Particulate Arresting filtration system that is 99.97-percent efficient for particles greater than 0.3 microns in size.